Upper Yellowstone Watershed Basin

Park Conservation District

General Membership Meeting
November 2, 2006 at 7:00 PM
St. John's Hall, Emigrant, Montana

-Minutes-

Those Present:

Alan Redfield
Bill Moser
Bliss McCrum
Bruce Malcolm
Carol Endicott, Confluence
David Bowman
David Molebash
David Rigler
DeeAnn Durgan
Dennis Davaz, Forester
Eleanor Bossert
Gary Schram
Gayleen Malone, Park CD
Jerry O'Hair
Jerry Petrich
Jim Durgan
Jim Melin
Keith Neal
Lew Wilks
Marcia McCrum
Mark Rose
Marty Malone, Park Co. Extension
Nicole McClain, Coordinator
Richard Kinkie
Riley Shimmin
Roger Nelson
Ron Archuleta, Livingston District
Ranger – Gallatin National Forest
Ryan Malone
Scott Opitz, FWP
Warren Kellogg, NRCS

***1. CALL TO ORDER* by Chairman, Mark Rose.**

2. *VISITOR INTRODUCTIONS.*

- Carol Endicott, Confluence Consulting
- Dennis Davaz, Forester
- Ron Archuleta, FS
- Scott Opitz, FWP
- Warren Kellogg, NRCS

3. *APPROVAL OF October 2006 MINUTES.*

4. *UPDATES*

- **Coordinator's Report:**
  - Cottonwood Reestablishment Project – task order complete, contract has been signed. Now need to meet with Confluence and determine next steps for spring.
  - MWCC Watershed Symposium: Charting our Course in a Changing Future, December 5-7, Great Falls, Montana. Please consider attending – scholarships are available. Registration deadline: November 15, 2006.
  - UYWB Pilot Peer Mentoring Project, HB-223 Grant proposal and hearing on November 8th in Great Falls at the MACD Annual Convention.
  - The coordinator and Park CD Supervisor Daryl Stutterheim will attend the MACD 65th annual convention: November 8-9, Heritage Inn, Great Falls.
- **Chairman's Report:**
  - Mark Rose. Proposing the idea of forming of new grant review committee to review project and funding proposals. It was decided by consensus to proceed and Gayleen offered to head this committee up.
- **Vice Chairman's Report:**
  - Bert Otis. N/A.

COMMITTEE UPDATES

- **Endangered Species / Wildlife Committee**
  - Marty Malone. From Drovers Journal: "Court forbids lethal wolf control in Wisconsin and Michigan. Michigan and Wisconsin officials may no longer destroy wolves that kill livestock, according to a federal court ruling, after plaintiffs claimed that killing wolves did not protect or recover them, the goals of the Endangered Species Act. The decision means that managers will have to explore nonlethal methods for preventing livestock depredation. One wolf biologist plans to use shock collars on wolves trapped in areas where depredation has occurred. These collars, which cost around $300, deliver a small shock when they

approach a trigger device that could be placed on the perimeter of a pasture." http://www.drovers.com/news_editorial.asp?pgID=717&ed_id=3913&component_id=869

- **Irrigation Committee**
- Jerry O'Hair. Nothing new

- **Range Committee**
  - Alvin Pierce. N/A
- **Stream Stabilization Committee**
  - Roger Nelson. Nothing new
- **Weed Committee Update**
  - Eleanor Bossert. Update on NWTF grant, how much we've spent so far, and how much is remaining. This money/project will run through September 2007.

AGENCY UPDATES

- USFS, Ron Archuleta, Livingston District Ranger. Update on the wildfire recovery. Post fire emergency recovery in Paradise Valley only (not Derby or Jungle).
  - Big Creek burned 14,000 acres: 8,300 on private lands. $37,000 has been allocated to emergency restoration work (fencing, road on Dry Creek just on FS land, weeds).
  - Passage Creek burned 7,000 acres with 1 acre on private land, the rest all public land. $262,000 for recovery work for road & trail work to repair damage from fire. Also rework in Mill Creek. Most done this fall, the rest will be finished in the spring.
  - Post fire recovery dollars (different from BAER $), very iffy if we will get it or not due to extent of fires nationwide for weed, trails, range allotments, fencing, water development. Using the Widen Amendment to allow federal $ to be spent on private lands for weed control, as well as some fence maintenance work.
  - Cost share boundary fences up Big Creek and will probably be able to cost share with landowners there, fences must be on survey line.
  - Q: When will you know about the post-fire $? A: Probably not until the 1st of the year, maybe not until March. Realize that folks need to know to purchase materials, ASAP, but will talk directly to landowners.
  - Q: Do you have a complete list of projects? A: Will get it to us.
  - Q: How about the subdivisions, are they eligible? A: Yes, they are, maybe the NRCS $ too ($11.00 acre).
  - Q: Is the BAER report on the internet? A: Will check, have copies in the office.
  - Q: Planning to log any of the burned areas? A: Categorical exclusions in the Mill Creek – Passage Falls area, team is looking for additional opportunities - will pursue roadside salvage. Can't do anything on wilderness lands must be a tree and a half length away from road. Ready to go by spring (harvest) if not sooner.

5. ***DISCUSSION.*** Mill Creek water leasing, discussion led by Marty Malone***.***

- This doesn't just pertain to Mill Creek but all creeks within watershed as well. Obviously some folks would like to see improvement of fisheries into river, remarks as landowner – not from employer standpoint.
- Mill Creek irrigation project. History of project: 1986 talked about the shortage of irrigation water to irrigated fields in Mill Creek Flat area, Bruce Shimmin said lets put it into a pipe. Came up with large community effort to convince landowners within that flat to mortgage their ranch for the installation of a pipeline 4.2 miles underground pipe, new diversion pt in Mill Creek canyon, 4 miles of canal which transverse property with ditches already on it. A lot of community cooperation, assisted in PL566 funds, Federal funds for improving water distribution. Originally when NRCS did study, they determined 8% of water being diverted was reaching a plant.
- 1884 was the first water was diverted from Mill Creek and typical of creeks where the landowner closest to bottom settled first, took first water out. 1864 first irrigation project put in Montana, irrigated a garden near the fort in Hardin. People who came out here recognized real quick that irrigated agriculture is very important to Montana.
- Regarding project itself, 85% efficiency – somewhere around 49 – 50 CFS. Roughly 89 CFS. The reason for this discussion is a landowner wishing to lease water for instream use, not the first history of instream use – legislature passed first law in 1992 or 1993. Water leasing study that allowed FWP to lease water from landowners that voluntarily wished to put water back into instream use. The recent legislature changed this, now anybody (person, corporation) can lease water from a willing landowner to instream use.
- Bruce Malcolm: 2 laws: one FWP, one for individual entities.
- Marty Malone: personal feeling people on Mill Creek flat expended a lot of time, $, energy to increase efficiencies on Mill Creek. Goes back to what Ron said about fire & drought, insects – tree death.

- Jim Melin: Not a lot of extra water in the creek, all for the pipeline, north side ditch, and then FWP started leasing water and have 50% at Mill Creek Bridge. Figure they lost about 39% of water going down there. Keith studied and figured about 90% loss. Late last August 1200 – 1800 CFS going by his mother's house and nothing getting to Meredith Allen's place – about 39% loss. Can't stop anyone from leasing water, need to happen at diversion ditch. If Meredith hadn't leased the water, Mill Creek flats would have been very dry. Mill Creek ditch has done a wonderful job conserving water but a lot of evaporation. Should lease at diversion point (pipeline).
- Alan Redfield loses half the water right there a canyon, half of the water gone before it reaches that point due to charge and recharge.
- Jim Melin: this is the driest year ever. Lived there 57 years and never seen it dry there before. During the drought years there is no water.
- Q: How did they measure? A: Not sure. Jim Melin: Less water in Mill Creek after east/west and main fork converged.
- Riley Shimmin: Pipeline has very little loss, before with three canals would have been out of water in early July in Mill Creek Flats.
- Jim Melin: After pipeline in a normal year, usually a lot of water running through there, but this is an abnormal year. Q: Does it still stand, if lease water can it be taken up or downstream? A: Not sure, lease has no diversion point mentioned in it, which is the problem with it… Other interesting thing is that according to form filed by MT Water Trust, 85-2-436 FWP only, not 407 which allows other people to do it.
- Interesting how FWP (Marty's opinion) everybody knows where elk and deer are – on irrigated land. Something that we as landowners and users of water, need to remind FWP and public that we are pasturing a lot of wildlife, and somewhere around 90% of wildlife spend all or part of their life on private land.
- Q: Anyone on pipeline, rights were moved up to the diversion point. Where all the water rights moved up? A: Can add one or change. Two landowners with water below the canal that moved water up in the 50s. They had more water for their property. Every historically on inch/acre.
- Q: What saying is not all these water rights go to the diversion point? They are not valid point, could be valid down on the farm? If you had 100" measured at one of those three ditches originally, some moved them up, some didn't want to delete their original point of diversion. When canal went in, they could use out of the canal, so took creek water and changed the point of use because the canal allowed them to irrigate the lower point, some didn't (2-3 landowners at that time).
- Jim Melin: Main point since FWP has been out of Mill Creek there has been a lot of cooperation so water gets spread out. Q: Has anyone come up with an ideal amount of water at the diversion that would get to the river? A: Scott Opitz. No, actually not from the diversion. At the East River Road breakpoint is 13 CFS. If adjust at the diversion would have to do studies during the summer to determine what the loss is…
- Q: How much would it take at diversion to get 13 at road? A: Would take the entire pipeline probably. Q: What does the pipeline run? A: 50 CFS irrigated 4,000 acres. Pipeline runs 75 CFS, several acres now in subdivisions not being irrigated.
- Q: What is considered the optimum minor's inches per acre? A: Set up for 9 gallons per minute per irrigated acre. We are using considerably less water now then before, making a big contribution to instream flow already. If FWP got there way, would have to shut the pipeline down. Payments of $18/acre don't go down if you shut the pipeline down. More than Mill Creek, there is a lot of interest in instream flow.
- Problem is that fish don't live on land. Most of cutthroat trout spawning is in tributary water. Rainbows also use tribs for spawning. Some crossover, but majority are separated in time, why not a huge amt of hybridization in river.
- Scott: Flushing flow tied to getting fry back to river. The reality is that it work, can move fish to river, but need base flow. This year when MC went dry, sometime lose 300 fish per day in just one pool. Losing fish when MC goes dry – losing hundreds if not thousands of fish.
- Q: Will flushing for another day help? A: 60 hours gives enough time to move fish – 3 nights. The key in getting fishing out of system, flushing flow tricks fish into thinking it's a healthy system, and then trap the fish. Need base flow.
- Marty: Present problems, and should not be on the backs of the irrigators.
- Scott: Yes, everyone needs to take part. Need to have a better understanding of loss throughout the season. Hope for the lease which is up for renewal, and look beyond leasing to bring water back to creek. Possibility of water out of the canal – need to approach those folks to see if there is water available there too, explore all options. | Line creek, or put pump in river and pump back up.
- Scott: Let's not write any of it off.
- Alan Redfield: Arrowhead 265' well. Wells are drying up, Rigler's, Marchington's, Gordon's, Shimmin's. Also lose trees along ditches if line creek. Pumping water is the best thing now. Statement: If we can show the benefit, they would back it.

- Q: Are there loss studies going forward? A: NO, just information from flush.
- Q: Is Mill Creek a key waterway for YCT. A: Yes & no. No because of lack of water. Mol Heron, Cedar and Big Creek are the most important producers for YCT into the system. Mill Creek is 4th most important. Key with the 4 up here is they are the stronghold for the entire river.

- Q: Should we continue to be a forum for this discussion? Warren is here tonight and might be willing to moderate if we move forward.
- Marty: We need to look at the language of this group which has cutthroat trout in it, we need to look at the impact to agriculture. If YCT gets on the endangered species list we could have a more serious problem. Personally, disagreed with Bruce when brought bill back up. Lot of interest in leasing for instream flows. This group needs to take a position on this issue.
- Q: Scott, where are we right now? Do we need to go further? A: A lot of interest out there in the Mill Creek water, there is an interest to lease water – maybe not the best way. Would the group be interested in moving this forward through a community forum to try and meet halfway.
- Q: Does FWP have $ to do a study? A: We can find money, can partner with DNRC and look at flows and loss. Would be nice to have a group like the watershed to help with grants.
- Warren: Might consider as a watershed group, there are still a lot of questions about how much water being lost from one point to another. It is difficult to talk in depth about solutions and compromises without having the numbers. The UYWB should consider sponsoring a flow study over one or two seasons, and then sponsor a forum to bring the folks involved to the table. We might be going in circles to sponsor a forum before we have the data.
- Q: Bill Moser: Hobbs Well summary: When wrong questions, are posed, research gets right answers to the asked questions-but wrong answers to the real problem. In the '60s there was a lot more water going into the Yellowstone river from Mill Creek than now. It is plausible that the Hobbs well could have not been sealed completely at the 5200 foot depth, leading to the extensive loss of water we see in the Paradise Valley today. The Governor's Upper Yellowstone River Task Force agreed with the observation enough to send it to the Governor as a recommendation. The Paradise valley is bathtub shaped with a possible drain at a point 5200' below grade in the same area that the Montana Tech study showed a net loss of water in their recent water balance study.
    - Background provided by Bill Moser: Hobbs was a Montana Power oil test well drilled ¼ mile from Arrowhead School, which, at 4600 feet, hit the YNP hot water northbound aquifer and showed 175 psi at the surface of the Pray flats. The hot water never hit surface because of rapid drilling crew remediation, which means Montana Power could not file a water right on the hot water aquifer. After drilling another several hundred feet, the pressure instantly dropped to zero, indicating they had drilled thru an eggshell into a hollow cavity that went who knows where. Years ago I interviewed the chief geologist and chief engineer for Hobbs, in Billings. They told me the accountants and the geologists wanted to keep drilling but top management ordered a pull-out due to fears of draining Yellowstone Park. (Yellowstone now has no where near the water-based, surface geothermal activity that it had in the 80's before Hobbs.) MPC claimed they sealed the cavity against the 2000+ pounds per square inch of hot water pressure located at a non-visible hole 5000 feet underground. Then they put in 3 plugs as required by DNRC for abandoning a well and left the site. Today, it is highly possibly all the water being lost from the central valley is still going down thru the eroded hole in the subterranean eggshell. DNRC shined off the possibility in deference to MPC. Someone needs to determine if the hole is still plugged or not, by coring down thru the 3 upper plugs and reading a pressure gauge at the surface in the existing Hobbs well casing. If the pressure at 4700 feet is around 175 psi, the plug is holding. If less, its not. Since this amount of lost water affects fishing, agriculture, cooling water, dam levels, and even barge traffic down the Missouri, maybe you could write a grant to put a pressure gage on Hobbs and determine if this is where the water is leaking out of the valley. Bill's concern is that the leak could eventually generate a volcano, which would ruin a lot of people's days. When enough superheated steam from the water and magma interface is generated, it blows the mountain off the top of the steam pot, like taking the lid off a pressure cooker in your kitchen. If the bottom plug has in fact blown away, the technology and funding required to fix the "leak" will be major superfund in nature, which is why he argues DNRC won't touch it.
    - Follow-up: Bill has agreed to supply Nicole with a copy of his paper to the TGUYTF so she has a detailed write-up on the subject.

5. *OPEN ITEMS. N/A*

6. *PROJECT IDEAS*

- Input from the group on resource needs and future meeting topics.

7. Program: Pre-and-Post Fire Management & Forest Change Mr. Dennis Davaz.

Please help us welcome Mr. Dennis Davas to our November meeting. Mr. Davas earned a degree in Forest Management from Washington State University and has worked as a logger, a civil and road engineering technician, District Forester, Procurement Forester, Certified Scaler, Contract Logging Administrator and has practiced east slope forestry for more than 20 years. He also helped establish Best Management Practices for Forestry in Montana in the mid 1980's and currently sits on the State of Montana's BMP Technical Advisory Committee. This presentation will cover pre-and-post fire forest management techniques and will also address insect infestation including Spruce Budworm.

- **Determine Goals for your forest land.** It is important to write down goals for your forest land.
  - Wildlife related – what kinds of wildlife.
  - Recreation related – develop nature trail, cross country skiing, hiking, etc.
  - Aesthetics – keep it the same!
  - Timber related – forest fire related, insects and disease, improvements in grown, etc.
  - Other – soil and water resource protection.
    - BE AS SPECIFIC AS POSSIBLE AND PRIORITIZE THEM!
- **Forest fire related goals may include:**
  - Creating defensible space around ranch buildings.
    - Defensible space is the area around a building that has been significantly modified to reduce a wildfire's intensity just enough to prevent the fire from igniting the house. The defensible space will also allow fire fighters to more safely defend the house. It can also prevent a house fire from spreading to the surrounding vegetation (Slack, 2000)
  - On the landscape level – manage your forest to control the vertical and horizontal arrangement of live and dead fuels to meet your tolerance level (or the publics) when wildfire occurs.
- **Where is your tolerance level?**
  - High tolerance level: allow the development of multi-story tree canopies and suspended fuels across your ownership. If this forest structure is left untended, it will result in large stand replacement fires.
  - Moderate tolerance level: reduce fuel continuity and ladder fuels so that when wildfire occurs, it will result in mixed severity burns.
    - Mixed severity burns move across the landscape burning hot in some areas (in the crowns), moderate in some areas (in the crowns and on the ground). The end result is a mosaic-like with some areas being black and some areas being green. What percentage of green and black are you willing to accept on your property and how big should the green and black spots be?
  - Low tolerance level: reduce most of the fuel and prevent it from developing over time.
    - Over time, having a very low tolerance level will conflict with other objectives and have biological consequences.
- **Look at your forest to determine its current condition (inventory).**
  - What is the overall structure?
  - Does it have a lot of suspended dead and down fuel and a ladder arrangement of dead and green fuel?
  - What is the potential for a stand replacement fire vs. a mixed severity fire?
  - Ho you have insect and disease activity? Will the activity contribute to fuel problems later on and if so, how?
- **While taking a closer look, you will recognize things that you didn't know where there!**
  - Are there any biological, physical or personal limitations that you found that may prevent you from accomplishing your goals?
  - Revisit and refine your goals based on this new information.
- **Forest structures and desired future condition**.
  - Is the structure that you have consistent with all of your goals or will you have to modify your forest to obtain your goals?
  - Will you have to modify your forest over time to keep it the same?
  - What do you want things to look like and how are you going to get there?
  - See Forest Structures Handout
- **Insect Population Dynamics.**
  - Insect pests are always present in forests in low levels and are host specific.

  - When trees are stressed and/or there has been some sort of disturbance, insect populations start building and can build to epidemic proportions when conditions are right.
  - They may not subside unless some weather event kills them, they run out of food, or we kill them.
  - Oftentimes, insects work in concert with other insects and fungi. (Ex. Mountain Pine Beetle brings in Blue Stain Fungus when it attacks LPP).
- **General prevention measures for insects.**
  - Keep your trees vigorous and growing.
  - Try to keep a mixture of tree species in your forest.
  - Monitor populations over time.
- **Western Spruce Budworm Discussion**
  - Life Cycle
  - Periodicity and length of attacks
  - Effects of aspect
  - Populations in thinned stands
  - Direct treatment options (spraying)
- **Douglas-Fir Beetle discussion**
  - Typically builds in a post fire setting
  - Life cycle
  - Periodicity and length of attacks
  - Relationships to tree diameter and age
  - Use of anti-aggregation pheromones
    - Temporary use
    - Use after treatments
- **Montana's Forest Stewardship Program**

8. CHAIRMAN'S CLOSING REMARKS. Mark apologized for keeping folks late, and thanked everyone for coming!

9. ADJOURN

Next Meeting: Thursday, December 7th @ 7:00 PM. St. John's Hall – Emigrant

Thank you for coming!

NOTE: These minutes were approved at the December 7, 2006 meeting.

Key to Commonly Used Acronyms:

DEQ – Department of Environmental Quality	MBMG – Montana Bureau of Mines & Geology
DNRC – Department of Natural Resources & Conservation	NRCS – Natural Resource Conservation Services
FWP – Fish Wildlife & Parks	Park CD – Park Conservation District
LEP – Local Empowerment Program (MACD)	TMDL – Total Maximum Daily Load (DEQ)
MACD – Montana Association of Conservation Districts	UYWB – Upper Yellowstone Watershed Basin
MWCC – Montana Watershed Coordination Council	WPA – Watershed Planning & Assistance Grant (DNRC)

Equipment List: (Available to members on loan)

- Trailer mounted weed sprayer (2)
- ElectroNet fencing – (9) 35" x 164'
- 10 Watt Solar Panel
- IntelliShock 42B battery energizer & 12v 44 amp battery